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EXAMINER

LAM, DUNG LE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Response to Arguments

Referring to the Office Action, claim 28 was rejected under 35 U.S.C. §112, second paragraph as being allegedly indefinite because the claim is directed to a system with coverage and capacity layers but does not recite any elements components for achieving the layers. Applicant argues that the rejection is overcome because Applicants here amended claim 28 to recite “**coverage layer carriers configured to** provide the coverage layer and capacity layer carriers to provide the capacity layer”. However the examiner disagrees because “**coverage layer carriers**” are interpreted as “a layer of frequencies” which is clearly an abstract non-physical concept. This limitation does not define an actual tangible structural component and thus the claim lacks a required structural limitation in an apparatus claim. Thus this 112 Second rejection for claim 28 is maintained.

Applicant argues that there is nothing in Schilling to suggest that the capacity of the cell could vary. The examiner respectfully disagrees. Schilling teaches that “The capacity of the system depicted in FIG. 8 can be increased by a factor of six” (C11 L25-27). The capacity of the cells has to increase collectively in order for the system capacity to be increased as a whole. Thus increasing the capacity is indeed varying the capacity.

Furthermore, Schilling’s invention maximizes channel capacity (C5 L19-26) and employs frequency hopping which changes its carrier to minimize interference (C5 L25-27); the changing of the carrier/frequency would inevitably varies the capacity of the cell. The controller clearly has the flexibility to utilize a variable number of carriers to communicate traffic based on the varying demands.

Applicant argues that Schilling’s teaching can only accommodate a maximum of 80 users and thus does not teach a variable total capacity. The examiner respectfully disagrees. The fact that the controller can utilize a variable number of frequencies to accommodate up to 80 users means the controller has a varying capacity by using a varying number of carriers (C12 L57-58). In fact, this interpretation is consistent with the specification; paragraph 42 states that the maximum number of

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carriers is 8 and the number of carriers can vary up to 8. Just because there is maximum number of carrier is 8 does not mean the total capacity or number of carriers is not changeable. The total capacity can be changed/varied by simply enabling/disabling one of the channels.

The examiner also notes that Schilling's disclosure uses CDMA technology and thus there is no limit on the radio capacity as stated the attached portion of a CDMA-IS95 book (see attached). Thus having a variable capacity is clearly not a patentable concept.

Similarly, applicant further argues that Reudink does not teach a variable number of carriers. The examiner respectfully disagrees. Reudink teaches a "sector controller 460 may adjust the splitter/switch matrixes of the present invention to provide alternative sector sizing and thus increase the number of channels, or other resources, available to a particular area within the cell, or improve signal quality associated with a sector or user." Because the splitter/switch matrixes have the ability to selectively enable certain input, it has the ability to vary the amount of traffic that it can service thus varies its capacity. By using more inputs, more channels/carriers and traffic would be accommodated. The one non-variable fact that one can count on is that the demand is variable depending on the time of the day. Thus the controller has to have the ability to selectively select which channels to use to fulfill the varying traffic demand (C9 L22-26, L45-53, C11 L27-38, C16 L55-67).

The examiner notes that the apparatus of claim 1 has only one required limitation "a define unit which defines a capacity layer for a cell ...wherein".

"wherein the number of carriers in the capacity layer is variable, to thereby dynamically vary a total capacity of the cell."

The limitation following the word "wherein" is functional language and does not add any further structural limitation to the claim. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus *must* be distinguished from the prior art in terms of *structure rather than function*. A claim containing a "recitation with respect to the manner in which a claimed

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apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim (see MPEP 2114[R-1]). Similarly, the method claim 10 also requires only a step of “defining a capacity layer”, the remaining limitations of claim are not active steps which are not positively recited thus are not required and optional. Since Schilling’s clearly discloses the require element of a defining unit that defines a capacity layer (C7 L7-21), Schilling’s invention reads on the required element. Nonetheless, to expedite prosecution, the examiner also addressed the optional limitations. However, the examiner invite the applicant to amend the claims to contain more positively recited steps in the method and structures in the apparatus claim to further distinguish the claimed invention from the cited prior art.

/Dung Lam/

Examiner, Art Unit 2617

/VINCENT P. HARPER/

Supervisory Patent Examiner, Art Unit 2617